THE ILLINOIS WATER-POWER SCHEME

When the National Waterways Commission, in January last, submitted its report on waterway conditions in Europe, and cast considerable doubt upon the feasibility of canal transportation in the United States, the advocates of the Lockport-to-Utica division of the Lakes-to-the-Gulf waterway immediately changed tactics.[1] The contention has since been that the prime purpose of the Illinois project is to develop water power, not to carry traffic. An interesting local struggle has arisen in Illinois over this, in which politics, financial interest, and newspaper jealousy are the most conspicuous elements. Those opposed to the waterway contend that the original purpose of the $20,000,000 bond issue, which the people of Illinois voted in 1908, was to create a waterway for the carrying of traffic; and that if the purpose has been changed now to one merely for the development of water power, the proposition should be resubmitted to the people at the polls, when it should be voted down as a foolish enterprise. The friends of the scheme, on the contrary, claim that since the people sanctioned the bond issue once by an overwhelming majority, there is no occasion for taking the trouble and time for another vote. They silence all doubts as to the value of water power by pointing to the fact that private interests are already on the ground, anticipating the use of power which they hope will be developed at the expense of the state.

Now, while no one doubts that no inconsiderable amount of water power may be developed, there is a real question whether it would be of sufficient value to warrant the expenditure of the large sums of money which the scheme involves. In the *Prospectus of the Plan Proposed by the Internal Improvement Commission of Illinois,* it is estimated that the portion of the Lakes-to-the-Gulf project for which the people of Illinois voted $20,000,000, namely, for a cut fourteen feet deep from Lockport to Utica, would cost $18,258,986. It is estimated further that "the net salable power

[1] The leaders of the movement are Governor Deneen and Senator Lorimer. The former insists that the state of Illinois should take the initiative in the matter, while the latter holds that it is the duty of the United States government to commence the work. Both favor the scheme. Perhaps political interest may explain the difference of their attitudes.

may safely be taken as 100,000 horse power, and a conservative rental for 24-hour power is $25 per horse power per year in excess of operating expenses. The annual net revenue will therefore be $2,500,000." Placing this in a sinking-fund bearing interest at 2 per cent. would permit the paying off of the $20,000,000 in fourteen years, and in addition it would leave a handsome balance in the public treasury. There would then be a princely annual revenue to be used in reducing the taxes of the citizens of the state. On the opposite page is given the tabulated statement as sent out to the people. The prospectus adds that "this presents the case in its most unfavorable aspect."

This prospectus will bear analysis. If the initial cost should prove to be more than $18,258,986 the revenues to the state would of course be proportionally reduced. In this connection it is well to recall that at the time of the passage of the bill for the construction of the Panama Canal it was estimated that the cost would be approximately $140,000,000 and that in no case would it exceed $160,000,000. The engineer who is now in charge estimates that the cost will be $375,000,000. The original estimate of the cost of the Drainage Canal of Chicago was about $16,000,000, whereas $53,000,000 has been expended thereon. In fact, such has been the history of all public works. Why? Because it is much easier to secure an appropriation if it appear modest in amount. After $20,000,000 has been expended, if only $10,000,000 more be required, the pressure for an additional appropriation is very strong. The original $20,000,000 should not be wasted for want of another paltry $10,000,000, it is argued, and the remainder is usually forthcoming. In the light of history we have no reason to believe that the Lockport-to-Utica division can be constructed for $18,258,986.

Now let us consider the estimates of the value of the water power to be developed. In the first place, it is to be noted that the computation assumes that all of the water power available for sale can at all times be placed on the market. Is it not reasonable to believe that at least some of the available product might for a time be unable to find market? The above computation, while presenting the case in its least favorable light, is based on the assumption that the very first year that the waterway is open the full 100,000 horse power would be sold. Of course no one can determine precisely how much of the product could be marketed at all times, especially at the rates named; but there is little question

Year	Power Rentals	Interest Income on Sinking Fund	Gross Earnings	Interest Charges on Bonds	Net Earnings	Sinking Fund
First	$2,500,000.00	.....	.....	$ 800,000.00	$1,700,000.00	$ 1,700,000.00
Second	2,500,000.00	$ 34,000.00	$2,534,000.00	800,000.00	1,734,000.00	3,434,000.00
Third	2,500,000.00	68,680.00	2,568,680.00	800,000.00	1,768,680.00	5,202,680.00
Fourth	2,500,000.00	104,053.60	2,604,053.60	800,000.00	1,804,053.60	7,006,733.60
Fifth	2,500,000.00	140,134.67	2,640,134.67	800,000.00	1,840,134.67	8,846,868.27
Sixth	2,500,000.00	176,937.37	2,676,937.37	800,000.00	1,876,937.37	10,723,805.64
Seventh	2,500,000.00	214,476.11	2,714,476.11	800,000.00	1,914,476.11	12,638,281.75
Eighth	2,500,000.00	252,765.64	2,752,765.64	800,000.00	1,952,765.64	14,591,047.39
Ninth	2,500,000.00	291,820.95	2,791,820.95	800,000.00	1,991,820.95	16,582,868.34
Tenth	2,500,000.00	331,657.37	2,831,657.37	800,000.00	2,031,657.37	18,614,525.71
Eleventh	2,500,000.00	372,290.51	2,872,290.51	800,000.00	2,072,290.51	20,686,816.22
Twelfth	2,500,000.00	413,736.32	2,913,736.32	800,000.00	2,113,736.32	22,800,552.54
Thirteenth	2,500,000.00	456,011.04	2,956,011.04	800,000.00	2,156,011.04	24,956,563.58
Fourteenth	2,500,000.00	499,131.27	2,999,131.27	800,000.00	2,199,131.27	27,155,694.85

SUMMARY

Sinking-fund accumulation		$27,155,694.85
Interest on bonds during construction period, 6 years at 4 per cent	$ 4,800,000.00	
To retire bonds	20,000,000.00	24,800,000.00
Balance earned over and above cost of Waterway and water power		$2,355,694.85

that an estimate which purports to be ultra-conservative should make considerable deduction to cover possibilities of failure to market all of the available supply.

In the second place, it is assumed that all of the power that can be developed along the route will belong to the state. Now, if private interests should gain control of a part of the water power, it is clear that the revenues to the state would be proportionally decreased. And the fact is that the state is far from being in control of all the water-power rights along the route. The Economy Light and Power Company, connected with the Commonwealth Edison Company, acquired from the Illinois and Michigan Canal Company on September 2, 1904, a twenty-year leasehold interest in the best site along the entire waterway, at Dresden Heights about 400 feet north of the junction of the Desplaines and Kankakee rivers where they form the Illinois. Suit was brought by the governor of Illinois in the name of the people for the purpose of ejecting the Economy company from the premises. In October, 1909, the Supreme Court of the state rendered a decision against the people, sustaining the electrical company at every point. The court held that "if the powerful hand of the government is to lay hold of this gigantic enterprise it must do so with due regard to the sacred rights of every citizen, however humble and insignificant those rights may seem in contrast with the great public consummation."[2] Vested interests are sacred in the eyes of the law and must be protected even at the expense of what appears to be public weal.[3]

Let us see what effect this situation has upon the proposed financial scheme of the state. Before the decision of the Supreme Court of Illinois was given, Governor Deneen, the champion of the water-power idea, admitted that "so large a deduction from the total available power would render abortive the proposed financial scheme of the state."[4] The Illinois internal improvement commissioners[5] have estimated that the water-power rights at Dresden Heights which are owned by the Economy Light and Power Company "are over 28,000 horse power, and the holdings of the same

[2] See *Illinois Reports*, 241, p. 291.

[3] Had the Desplaines River been a navigable stream the decision would have been against the electrical company, because the law holds that the public interest in a navigable waterway is paramount to all others.

[4] Message to the legislature, November 6, 1907.

[5] Isham Randolph, H. M. Schmoldt, and H. W. Johnson.

company at Hickory Creek are about 14,000 horse power, making a total of 42,000 horse power."[6] They further say that as the market develops, this power may reach an investment value of $1,000 per horse power, as in older countries, and it may produce taxable wealth of three or four times this amount."[7] These value estimates were made of course for the purpose of showing the people how rich they were to grow from the development of the state's resources, and not for the purpose of informing the Economy company what price the state would be willing to pay for its holdings in case the state should wish to purchase the site at Dresden Heights. If, however, the state desires to purchase these rights there is little question that it would be asked to buy at these official estimates which the state itself has sanctioned. On a basis of $1,000 per horse power the value of the holdings of the Economy company would be about $42,000,000. If $42,000,000 be added to the original cost of over $18,000,000 the water-power scheme loses much of its golden promise. The situation would not be bettered should the state decide not to purchase these rights from the Economy company; for in that event more than 40 per cent. of the estimated revenues from the sale of water power by the state would have to be canceled.

There is yet another assumption in this computation which is open to serious criticism. It is put as a conservative estimate that all of the 100,000 horse power available can be marketed at an average price of $25 per horse power per annum, net—that is, above operating expenses. Let us examine this estimate.

The United States government has leased water power at rates varying from 50 cents to $3.00 per horse power per year,[8] and even at such low rates much of the power available has found no market. "The government has many dams already built that give immense potential horse power, and an unappreciative and unpatriotic public coldly passes them by and buys coal at $4 a ton with which to produce power. At the dams on the Muskingum River in populous Ohio, energy is now sold at 50 cents per horse power per annum and at . . . . Augusta, Ga., it is sold for $1.00 per annum."[9] The amount of power that can be sold and the price it will bring

[6] *Report of 1909*, 51.

[7] *Ibid.*, 52.

[8] *The World To-day*, March, 1910.

[9] Peyton, *The American Transportation Problem* (1907), 23.

will of course vary greatly in different sections of the country because of differences in industrial conditions. Some regions may have comparatively little demand for electrical power; other sections may be well supplied with cheap fuel for the manufacture of steam power; still other places may bid high for hydro-electric power. Consequently, no general estimates of the value of hydro-electric power can safely be made. The conditions in Ohio may, however, be regarded as somewhat comparable to those in Illinois. Again, conditions in western New York may be considered as not greatly different from those in Illinois. The Niagara Falls Power Company furnishes electricity to tenant companies on its lands at rates ranging from $18.60 per horse power per annum for a 60-kilowatt motor running ten hours a day to $28.80 for a 10-kilowatt motor running ten hours a day; while for special service in amounts of 500 horse power or more the rate is $20 per horse power per year.[10] These figures, be it observed, do not represent net earnings. They include all of the costs of production. Now if it be assumed that the power company makes a profit of 10 per cent., the net earnings per horse power per year vary from $1.86 to $2.88. "In North and South Carolina the average charge is $15 per horse power per year for sixty-six hours per week.[11] Mr. W. E. Herring, an engineer in the United States Forest Service, states that "water power can be and is sold for as low as $20 per horse power per year when necessary to secure the business."[12] That is, it is sold for that price except where monopoly conditions permit a higher price.[13] These estimates all mean that private companies can make a reasonable profit when selling hydro-electric power at about $20 per horse power per year. The net profit would therefore be something near $2.00 per year. Such facts as these do not give much assurance that the state of Illinois will be able to dispose of all of its available power at an average net profit of $25 per horse power per year.

To summarize, we have seen that the cost of the Lockport-to-Utica division of the Lakes-to-the-Gulf waterway is doubtless greatly underestimated; we have found that deductions should be

[10] These rates were secured from the Niagara Falls Power Company.

[11] *Preliminary Report of the Inland Waterways Commission*, 449.

[12] *Ibid.*, 450.

[13] The only case cited by Mr. Herring where private companies have a virtual monopoly is in California. There in some cases power has been sold for as much as $98 per horse power per year (448).

made from the estimated receipts from the sale of water power for possible inability to market all of the available supply; we have seen that over 40 per cent. of the total estimate must be canceled because of the foresight of the Economy Light and Power Company; and, finally, we have been shown that the net annual receipts from the sale of power is commonly from $1.00 to $3.00 per horse power instead of $25 as estimated by the advocates of the Illinois project.

It should be recalled that in the early history of Illinois the people were in a similar way promised that the revenues to be derived from the public canals and railways which were being constructed by the state would speedily reduce, if not wholly remove, the burdens of taxation; and that the net result of that promising financial scheme was a public debt so enormous that it all but impelled the state to repudiate its obligations, and heavily increased the burdens of taxation for many years thereafter. Might not history repeat itself in this second financial scheme into which the governor would lead the commonwealth?

H. G. MOULTON

THE UNIVERSITY OF CHICAGO